UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,437	10/18/2000	Michel K. Susai	2006579-0454 (CTX-170)	3741

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EXAMINER
CHANKONG, DOHM

ART UNIT	PAPER NUMBER
2152	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/690,437	SUSAI ET AL.
	Examiner	Art Unit	
	DOHM CHANKONG	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*31 October 2007*</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>*9-44*</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>*9-44*</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1>   This action is in response to Applicant's request for continued examination. Claims 9,

14-19, 23, 27, 32-37, and 41 are amended. Claims 9-44 are presented for further examination.

2>   This is a non-final rejection.

Continued Examination Under 37 CFR 1.114

3>   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant

to 37 CFR 1.114. Applicant's submission filed on 10.31.2007 has been entered.

Response to Arguments

4>   Applicant's arguments with respect to claims 9-44 have been considered but are moot

in view of the new ground(s) of rejection necessitated by Applicant's amendment. A few

points merit discussion. Applicant amends the claims to now recite in part that the interface

unit determines that a second client and a server are and are not transferring data by

monitoring application layer data. Applicant's reasons for this amendment are two-fold.

First, Applicant asserts that Batra's connection manager does not receive network

traffic so the manager cannot meet that part of the claim. In Applicant's view, Batra's

connection manager simply receives requests for connections. However, these requests still

read on network traffic. The requests are sent over the network and contain usual header information associated with network traffic. The new ground of rejection as set forth below expands on Batra's connection manager.

Second, Applicant asserts that Batra does not monitor application layer data of network traffic. It is noted that Applicant's specification is devoid of any description for what would constitute "application layer data." Thus, the term is given its broadest reasonable interpretation. One of ordinary skill in the art would have interpreted "application layer data" as referring to any data stored in the headers of the network traffic. As to this term, Batra discloses that the connection manager examines "timestamps" within the network traffic to determine whether the connection is being or not being used. It is well known in the art for timestamps to be carried in the headers of network traffic. Thus, Batra's monitoring of the timestamp information corresponds to Applicant's new limitation.

Examiner suggests introducing limitations into the independent claims further defining what Applicant means by "application layer data."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5>   Claims 9-13, 21, 24-31, 39 and 42-44 are rejected under 35 U.S.C §103(a) as being

unpatentable over Batra, U.S Patent No. 6.105.067, in view of view of RFC 2616, Fielding et

al. (hereinafter Fielding), June 1999.

6>   As to claim 9, Batra discloses a method of polling by an interface unit a transport

layer connection to a server, the method comprising the steps of:

        a.   receiving, by an interface unit, a first request of a first client to access a server,

        the first client and the interface unit communicating via a first transport layer

        connection [Figure 5 «items 400, 410» | column 3 «lines 5-19» where : Batra's

        connection manager is analogous to the claimed interface unit];

        b.   identifying, by the interface unit that the interface unit has a second transport

        layer connection established with the server indicated by the first request [column 8

        «lines 26-40» : requesting an existing connection from the pool to a specific data

        server];

        c.   determining, by the interface unit, that a second client and the server are not

        transferring data for a second request via the second transport layer connection

        [Figure 5 «item 510» | column 8 «lines 41-44» where : the connection manager

        determines whether any of the existing connections are available for use. This

        functionality implies a determination as to whether any data is being transferred over

        the connection (see Figure 5 «item 520» which marks as "used" any connection that is

        being used for data transfer)];

d.   transmitting, by the interface unit, the first request via the second transport

layer connection in response to the determination of step (c) [Figure 5 «item 420» |

column 8 «lines 26-40»];

e.   determining, by the interface unit, that the second client and the server are

transferring data for the second request via the second transport layer connection in

response to receiving a third request from one of the first client or the second client to

access the server [Figure 5 «item 510» | column 3 «lines 54-62» | column 8 «lines 41-

44»];

f.   establishing, by the interface unit, a third transport layer connection with the

server in response to the determination of step (e) [column 8 «lines 41-46»].

Batra however does not expressly disclose that his connection manager determines

that the second client and the server are or are not transferring data by monitoring

application layer data. Batra does disclose monitoring timestamps as a means of determining

whether the connection is still in use [column 11 «line 66» to column 12 «line 29»]. Fielding

discloses that timestamps are application layer data of network traffic [pg. 16, §3.3.1 - "Full

Date" - HTTP is a well known application layer protocol]. Thus, one of ordinary skill in the

art would have understood Batra's determination of whether data was or was not being

transferred over the connection to be based on monitoring application layer data as claimed.

Also note: Fielding teaches the use of a "Content-Length header" to signal that a client and

server are not longer using the connection [pg. 38 - §8.2.2].

7>   As to claim 10, Batra discloses receiving, by the interface unit, the second request to

access the server via one of the first client, the second client or a third client [Figure 4 «items

60, 62» | column 8 «lines 41-44» | column 10 «lines 12-17» where : upon receiving an incoming

request, the manager checks to see if any connections are already "in-use"].

8>   As to claim 11, Batra discloses intercepting, by the interface unit, one of the first

request, the second request or the third request [Figure 5 «item 410»].

9>   As to claim 12, Batra discloses step (b) comprising identifying, by the interface unit,

the server from a destination internet protocol address of a network packet of the first

request [column 2 «lines 47-52» | column 9 «lines 37-42»].

10>   As to claim 13, Batra discloses step (b) comprising identifying, by the interface unit,

the server from a path name of the first request [column 9 «lines 25-42» where : "the subpool

name then identifies that data server"].

11>   As per claims 15 and 16, Batra disclose the invention substantially as rejected in claim 1

above, but does not explicitly say means for utilizing a content length parameter or a chunk

size field to determine whether all of said information has been sent to said first client.

However, such a feature was well known in the art at the time of Applicant's invention.

          For example, Balabine discloses a connection manager that monitors application layer

data of network traffic [column 4 «lines 44-59» | column 5 «line 65» to column 6 «line 19»

where : the connection manager monitors the headers of the messages that are passed

between the server and the client, the header including information such as "content-

length"]. It would have been obvious to one of ordinary skill in the art to have modified

Batra's connection manager with the functionality of Balabine's connection manager. One

would have been motivated to modify Batra's connection manager as the increased

functionality would give the connection manager more control over packets that are passed

through the network [see Balabine, column 2 «lines 24-30»]. Thus, Batra as modified by

Balabine discloses a connection manager that monitors application layer data of network

traffic.

However, Batra, as modified by Balabine does not expressly disclose that the purpose

of the monitoring the content length parameter or chunk size fields is to determine whether a

client and a server are or are not transferring data over the connection. This feature was also

well known in the art at the time of Applicant's invention. Fielding teaches that a client and

server can signal that they are finished utilizing a persistent connection using the

Connection header field [pg. 36, §8.1.2 Overall Operation and §8.2.2: teaching that a client or a

server can signal to close a TCP connection using the Connection header field. It should be

noted that this header field is the same as the header field taught in Balabine]. The header

includes for example chunk sizes [Fielding, 3.6.1. Chunked Transfer Coding, lines 1-6]. The

chunk sizes are used "to verify that it has received the full message." Thus, the chunk size

informs that a connection is still being used to receive the entire message. Thus, it would

have been obvious to one of ordinary skill in the art to modify Batra to include Fielding's

teachings. One would have been motivated to modify Batra in such a manner so as to insure

that the all data is received by the client prior to closing the connection [see Fielding, 3.6.1.

Chunked Transfer Coding, lines 1-6; Fielding, 3.6 Transfer Codings, lines 1-5 - improve the

accuracy and safe transport by utilizing a verification scheme].

12>   As per claims 16, 18, 19, 33, 34, 36, and 37, the claims are rejected for the same reasons as

rejection to claim 15 above. Note that each chunk contains its own size fields.

13>   As to claim 17, Batra does not expressly disclose determining, by the interface unit,

that the second client and the server have not transferred at least a last byte of data.

However, Applicant's specification recites the use of sequence numbers when transferring

data between a client and server [Applicant's specification, pg. 10, lines 10-18]. Applicant's

specification recites use of the sequence numbers to determine the last successfully received

byte of data. Similarly, Fielding discloses the use of a "last-chunk" identifier; this teaching

implies that the transfer of a last byte of data is not complete can be determined based on the

application layer data (if a recipient has not received a full message, then the last byte of data

has not been received).

It would have been obvious to one of ordinary skill in the art to have incorporated

Fielding's teachings into Batra's connection manager. Such a feature is well known in the art

as it provides the ability to monitor data transfer between clients and servers and to insure

that the full message is received by determining whether the last chunk has been received.

14>   As to claim 20, Batra does not expressly disclose inserting, by the interface unit,

information in the first request of the first client to indicate to the server to keep a transport

layer connection.

        In the same field of invention, Balabine is directed towards a connection manager that

maintains persistent TCP connections within a connection pool [column 4 «lines 40-50»].

Balabine discloses inserting information in the first request of the first client to indicate to

the server to keep a transport layer connection [column 4 «lines 51-60» | column 5 «lines 33-

49»].

        It would have been obvious to one of ordinary skill in the art to incorporate Balabine's

teachings of a keep-alive header within a request into Batra's connection pool system. Such a

feature is implied in Batra's system because Batra already discloses keeping open connections

with the pool just like Balabine. Therefore, the keep-alive feature is implied within Batra's

system as a means to keep open the connections, as taught by Balabine.

15>   As to claim 21, Batra discloses step (f) comprising waiting, by the interface unit, to use

the second transport layer connection to transmit the third request [Figure 5 «item 530» |

Figure 6 | column 9 «lines 43-59»].

16>   As to claim 24, Batra discloses receiving, by the interface unit, a response to the first

request from the server via the second transport layer connection, and transmitting the

response to the first client via the first transport layer connection [column 8 «lines 31-40»].

17>   As to claim 25, Batra discloses one of the first, second or third request comprises a

request to open a transport layer connection [column 8 «lines 41-47»].

18>   As to claim 26, Batra discloses transmitting, by the interface unit, the third request via

the third transport layer connection [column 10 «lines 50-57» where : it is implied that upon

opening a new connection, the new connection is being used to serve the request].

19>   As to claims 27-31, 39 and 42-44, as they are merely claims to an interface unit that

implements the method of claims 10-13, 21 and 24-26, respectively, they are similarly rejected

for at least the same reasons as set forth above.

20>   As to claim 35, as it is merely a claim to an interface unit that implements the method

of claim 17, it is similarly rejected for at least the same reasons as set forth above.

21>   As to claim 38, as it is merely a claim to an interface unit that implements the method

of claim 20, it is similarly rejected for at least the same reasons as set forth above.

22>   Claims 14, 22, 23, 32, 40 and 41 is rejected under 35 U.S.C §103(a) as being unpatentable

over Batra, in view of Gopal et al, U.S Patent No. 6.163.812 ["Gopal"].

23>   As to claim 14, Batra does not expressly disclose transmitting, by the interface unit,

the first request via the second transport layer connection prior to receiving, by the interface

unit, one of a finish command or a reset command from the second client. However, such a

feature was well known in the art at the time of Applicant's invention. In the same field of

invention, Gopal is directed towards an application that maintains a pool of unused

connections in a connection pool [column 10 «lines 12-17»]. Gopal discloses transmitting, by

the interface unit, the first request via the second transport layer connection prior to closing a

connection by submitting a finish (FIN) packet [column 10 «lines 18-41»]. It would have been

obvious to incorporate Gopal's teachings into Batra. One would have been motivated to

modify Batra as Gopal would enhance Batra's functionality by providing the capability of

receiving additional connection requests from other clients to use the same connection prior

to closing the connection through the use of the FIN packet.

24>   As to claim 32, as it is merely a claim to an interface unit that implements the method

of claim 14, it is similarly rejected for at least the same reasons as set forth above.

25>   As to claims 22 and 23, Batra does not expressly disclose receiving an

acknowledgement from the second client that data transfer has completed or transmitting the

third request in response to receiving the acknowledgement and prior to receiving a request

to close a transport layer connection between the second client and the server.

26>   Gopal discloses receiving an acknowledgement from the second client that data

transfer has completed and prior to receiving a request to close a transport layer connection

between the second client and the server [column 10 «lines 36-41» : sending of a FIN

command implies that all the data has been transferred]. It would have been obvious to one of ordinary skill in the art to incorporate Gopal's teachings into Batra. One would have been motivated to modify Batra as Gopal would enhance Batra's functionality by providing connection closing capability through the use of the FIN packet.

27>   As to claim 23, Batra discloses transmitting requests after a connection has been returned to the connection pool. According to Gopal, a connection is only returned to the pool upon receiving the acknowledgement from the client that the data transfer is complete [column 10 «lines 36-41»]. Therefore, Batra's teaching of transmitting a third request on a connection that is no longer "in-use" is done in response to the acknowledgement that the data transfer is complete.

28>   As to claims 32, 40 and 41, as they are merely claims to an interface unit that implements the method of claims 14, 22 and 23, respectively, they are similarly rejected for at least the same reasons as set forth above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOHM CHANKONG whose telephone number is (571)272-3942. The examiner can normally be reached on Monday-Friday [8:30 AM to 4:30 PM].

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571.272.3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dohm Chankong/
Examiner, Art Unit 2152
2/9/08

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination
	09/690,437	SUSAI ET AL.
	Examiner	**Art Unit**	
	DOHM CHANKONG	2152	